



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|--------------------------|---------------------|------------------|
| 09/484,691 | 01/18/2000 | Hashem Mohammad Ebrahimi | 1909.2.72 | 9980 |

21186 7590 04/13/2004

SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.
P.O. BOX 2938
MINNEAPOLIS, MN 55402

EXAMINER

COLIN, CARL G

ART UNIT PAPER NUMBER

2136

DATE MAILED: 04/13/2004

11

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/484,691

Applicant(s)

EBRAHIMI ET AL.

Examiner

Carl Colin

Art Unit

2136

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01/18/2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Response to Arguments

1. In response to communications filed on 1/30/2004, Applicant amends claim 1, the following **claims 1-31** are presented for examination.

2. The amendments to the specifications, filed on 1/30/2004, have been considered. The objection to the drawings has been withdrawn.

2.1. Applicant's arguments, see pages 9-13, filed on 1/30/2004, with respect to the rejection of claims 14 and 23, under 35 USC 103 (a) have been fully considered and are persuasive.

Shrader teaches a proxy, but does not explicitly teach a transparent proxy. However, Shrader teaches all other limitations of claim 14. Referring to claim 23, Callaghan teaches a proxy, but does not explicitly teach a transparent proxy. However, Callaghan teaches all other limitations of claim 23. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground of rejection is made in view of Cohen et al. in combination of the teachings above.

A transparent proxy is known in the art and was made of record in the previous Office Action.

Cohen et al. and Blum et al., both teach a transparent proxy and either one of the references would be an obvious combination to the proxy described by Callaghan and Shrader. Applicant amends claim 1 to recite a transparent proxy. Independent claims 1 and claim 27 are rejected for the same reasons described above. Regarding the dependent claims, the teaching of Callaghan

Art Unit: 2136

and Shrader in combination with other references in the first Office Action still applies as far as disclosing other limitations not challenged by Applicant.

Claim Rejections - 35 USC § 112

3. **Claim 1 and the intervening claims** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the proxy" in the last four lines of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2136

4.1 **Claims 1-4, 6-7, 9-17, and 20-31** are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 2002/0007317 to **Callaghan et al.** in view of US Patent 6,182,141 to **Blum et al.** and in view of US Patent 6,374,359 to **Shrader et al.**

4.2 As per claim 1, **Callaghan et al.** substantially teaches a method for brokering state information exchanged between computers using at least one protocol above a transport layer, the method comprising the steps of receiving at a proxy a request from a client requesting a resource of an origin server (page 6, paragraph 86); redirecting the client request from the proxy to a policy module (page 6, paragraph 86); obtaining enforcement data provided by the policy module (page 6, paragraph 87); generating at the proxy a policy state token in response to the policy enforcement data (page 6, paragraph 87); and transmitting the policy state token from the proxy to the client (page 6, paragraph 87). **Callaghan et al.** does not explicitly state using a transparent proxy. A transparent proxy is well known in the art. However, **Blum et al.** in an analogous art teaches receiving at a proxy a request from a client requesting a resource of an origin server, for example (column 3, lines 42-60). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of **Callaghan et al.** to receive a request at a transparent proxy in order for services to be transparent to the user and no additional code to support new or revised protocols is needed as taught by **Blum et al.** (see column 2, lines 12-21). This modification would have been obvious because one skilled in the art would have been motivated by the suggestions provided by **Blum et al.** so as to provide services to be transparent to the user and with no need of additional code to support new or revised protocols.

Callaghan et al. does not explicitly state obtaining at the proxy policy enforcement data from the policy module. However, **Shrader et al.** in an analogous art teaches redirecting the client request from the proxy to a policy module (column 4, lines 10-65); obtaining at the proxy policy (web server) enforcement data provided by the policy module and generating state token from the data (column 4, lines 10-65). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of **Callaghan et al.** to obtain enforcement data at the proxy from the policy module to create and validate authentication cookies as taught by **Shrader et al.**. This modification would have been obvious because one skilled in the art would have been motivated by the suggestions provided by **Shrader et al.** so as to validate the user to other server applications.

As per claim 2, **Callaghan et al.** teaches further comprising the step of receiving at the proxy a renewed request for the origin server resource, the renewed request containing the policy state token (page 6, paragraph 87).

As per claim 3, **Callaghan et al.** teaches the method of claim 2, wherein the renewed request contains the policy state token in a cookie in a header sent from the client to the proxy (page 6, paragraph 87).

As per claim 4, **Callaghan et al.** teaches the step of forwarding to the origin server a portion of the renewed request, the forwarded portion omitting the policy state token (see page 6,

Art Unit: 2136

paragraphs 88-90). **Callaghan et al.** further teaches in other embodiments the step of stripping off the state token (see page 4, paragraph 61 and page 5, paragraph 81).

4.3 **As per claim 6, Callaghan et al.** teaches further comprising the steps at the proxy of forwarding to the client at least a portion of a communication from the origin server, and forwarding to the origin server at least a portion of a communication from the client (page 5, paragraphs 81-82).

4.4 **As per claim 7, Callaghan et al.** teaches the limitation of wherein HTTP is a protocol used during at least one of the receiving and transmitting steps (page 6, paragraph 86).

4.5 **As per claim 10, Callaghan et al.** substantially teaches the claimed method of claim 1 and further teaches the use of application programming interface. **Callaghan et al.** does not explicitly teach the LDAP application. **Shrader et al.** in an analogous art teaches LDAP as a software to provide authentication information about the client (column 4, lines 14-26).

Therefore, it would have been obvious to one of ordinary skilled in the art at the time the invention was made to modify the method of **Callaghan et al.** to use LDAP to authenticate the user as taught by **Shrader et al.**. This modification would have been obvious because one skilled in the art would have been motivated by the suggestions provided by **Shrader et al.** to provide authentication in the communications between the client and the server.

Art Unit: 2136

4.6 **Claims 9 and 11** are similar to the rejected **claim 10** except for utilizing Novell Directory Services and SSL software respectively instead of LDAP. **Shrader et al.** uses LDAP only as an illustration but states that any other server administrative application can be implemented in the invention (column 4, lines 15-20 and lines 53-65). Therefore, **claims 9 and 11** are rejected on the same rationale as the rejected claim 10. These applications are known in the art as also present in applicant's references.

4.7 **As per claim 12, Callaghan et al.** teaches the limitation of wherein the obtaining step extracts policy enforcement data from a redirection address field (see page 6, paragraphs 86-87). The proxy obtains the enforcement data from a redirection field by the browser. In case of a policy module in a separate server, it is apparent to one of skilled in the art that the proxy will forward the redirection address field to the server.

As per claim 13, Callaghan et al. teaches the limitation of wherein the transmitting step transmits the policy state token in a cookie in a header sent from the proxy to the client (page 6, paragraph 87).

4.8 **As per claim 14, Shrader et al.** substantially teaches a transparent proxy server (see column 5) comprising: a memory configured at least in part by a transparent proxy process; a processor for running the transparent proxy process; at least one link for networked communication between the transparent proxy process, on the one hand, and a client computer and an origin server, on the other hand; To one with ordinary skilled in the art, the web server

Art Unit: 2136

has a memory and a processor to run the proxy process and the network can have any number of clients and servers with at least one with the policy module as disclosed by **Shrader et al.**; a policy module identifier which identifies a policy module that grants or denies authorization of proxy services. At step 56 (column 5, line 50) **Shrader et al.** discloses a step to check the validation of the proxy services. **Shrader et al.** substantially teaches the limitations of the claim, but does not explicitly teach a transparent proxy. However, **Blum et al.** in an analogous art teaches a transparent proxy server having a transparent proxy server address, for example (column 3, lines 42-60). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of **Shrader et al.** to use a transparent proxy as taught by **Blum et al.** (see column 2, lines 12-21). This modification would have been obvious because one skilled in the art would have been motivated by the suggestions provided by **Blum et al.** so as to provide services to be transparent to the user and with no need of additional code to support new or revised protocols.

As per claim 15, **Shrader et al.** teaches a proxy server in combination with the policy module (column 5, lines 1-25).

As per claim 16, **Shrader et al.** teaches the claimed method of claim 15, wherein the policy module and the transparent proxy process are running on the same computer (column 5, lines 1-25).

Art Unit: 2136

As per claim 17, Shrader et al. the claimed method of claim 14, and further teaches that the client computer is networked to a set of one or more servers. Therefore, the addition of another client computer in the network is obvious to one skilled in the art.

4.9 Claim 20 adds another proxy with similar limitations as the rejected claim 14. Shrader et al. substantially teaches the claimed method of claim 14 in combination with at least one additional transparent proxy server which also has a memory configured at least in part by a transparent proxy process, a processor for running the transparent proxy process, a link, and a policy module identifier. To one with ordinary skilled in the art, the network can comprise of any number of clients and servers as disclosed by Shrader et al. (column 5, lines 1-25).

As per claim 21, Shrader et al. substantially teaches the request from one proxy to another. Shrader et al. further mentions that at least one supports the server application. It is apparent to one skilled in the art that one can communicate with the other (column 5, lines 1-25).

As per claim 22, Shrader et al. teaches that one computer can perform the handling request in column 5. It is apparent to one skilled in the art that if two servers are combined the handling request can still be performed by one.

4.10 As per claim 23, Callaghan et al. substantially teaches a pair of state information brokering signals embodied in a distributed computer system, the system containing a client, a transparent proxy server having a transparent proxy server address, and a policy module having a

Art Unit: 2136

policy module address (see page 3, paragraphs 44-48). **Callaghan et al.** discloses in figure 1 a computer system with terminals that meets the recitation of signals from the computer, the pair of signals comprising: a first signal including a redirection command which specifies the policy module address as a redirection target (see page 6, paragraphs 86-87); and a second signal including a redirection command which specifies the transparent proxy server address as a redirection target and also including policy enforcement data which grants or denies authorization for the client to use a service of the transparent proxy server (see page 6, paragraphs 86-87). **Callaghan et al.** further discloses the address for the policy module for the user to enter data and the address of the proxy on the POST request. **Callaghan et al.** discloses the limitations of claim 23, but does not teach a transparent proxy. However, **Blum et al.** in an analogous art teaches a transparent proxy server having a transparent proxy server address, for example (column 3, line 20 through column 4, line 8). Therefore, it would have been obvious to one of ordinary skilled in the art at the time the invention was made to modify the method of **Callaghan et al.** to use a transparent proxy in order for services to be transparent to the user and no additional code to support new or revised protocols is needed as taught by **Blum et al.** (see column 2, lines 12-21). This modification would have been obvious because one skilled in the art would have been motivated by the suggestions provided by **Blum et al.** so as to provide services to be transparent to the user and with no need of additional code to support new or revised protocols.

4.11 As per claim 24, **Callaghan et al.** teaches the limitation of wherein the first signal includes an identity broker address as the policy module address (see page 6, paragraphs 86-87).

4.12 As per claim 25, **Callaghan et al.** teaches the limitation of wherein the first signal includes a login server address as the policy module address (see page 6, paragraphs 86-87).

4.13 As per claim 26, **Callaghan et al.** teaches the limitation of wherein the second signal includes the policy enforcement data embedded in an address field with the transparent proxy server address (see page 6, paragraphs 86-87).

4.14 Claim 27 is similar to the rejected claim 1, except for incorporating the claimed method of claim 1 into a computer medium. Therefore, claim 27 is rejected on the same rationale as the rejection of claim 1.

4.15 As per claim 28, **Callaghan et al.** substantially teaches a policy enforcement data that grants authorization for the client to access resources (page 6, paragraph 87). **Callaghan et al.** further teaches the step of generating at the transparent proxy a proxy cookie containing at least a portion of the policy enforcement data, and transmitting the proxy cookie from the transparent proxy to the client (page 6, paragraphs 86-87). **Callaghan et al.** does not explicitly grant authorization for the client through the transparent proxy, credentials are sent to the appropriate servers. However, **Shrader et al.** in an analogous art teaches the step of granting authorization for the client through the transparent proxy (column 4, lines 10-65). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of **Callaghan et al.** to grant authorization for the client through the transparent proxy as

Art Unit: 2136

taught by **Shrader et al.** This modification would have been obvious because one skilled in the art would have been motivated by the suggestions provided by **Shrader et al.** so as to control authentication at the transparent proxy.

4.16 As per claim 29, **Callaghan et al.** teaches the limitation of wherein the method further comprises the steps of accepting the proxy cookie at the transparent proxy with a renewed client request for the origin server resource, and forwarding the renewed client request to the origin server without the proxy cookie (see page 6, paragraphs 88-90). **Callaghan et al.** further teaches in other embodiments the step of stripping off the state token (see page 4, paragraph 61 and page 5, paragraph 81).

4.17 As per claim 30, **Callaghan et al.** teaches the limitation of wherein the method further comprises the step of transparently forwarding the requested resource from the origin server to the client (see page 6, paragraphs 88-89).

4.18 As per claim 31, **Callaghan et al.** teaches the limitation of substantially teaches the step of generating at the proxy a policy state token in response to the policy enforcement data (page 6, paragraph 87); transmitting the policy state token from the proxy to the client (page 6, paragraph 87); receiving the proxy cookie from the client with a renewed client request for the origin server resource (page 6, paragraph 87), and accepting the policy enforcement data (page 6, paragraphs 88-90). **Callaghan et al.** does not teach using another proxy to perform the tasks. To a person skilled in the art it is apparent that another backup proxy will perform the same function.

Art Unit: 2136

Shrader et al. in an analogous art teaches using multiple proxies that support LDAP (column 5, lines 1-25). It is apparent that other servers are capable of doing the job when one server fails, so receiving the first proxy cookie at a second transparent proxy is not departing from the spirit and scope of the teaching of **Shrader et al.** Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of **Callaghan et al.** to include additional proxies as taught by **Shrader et al.** This modification would have been obvious because one skilled in the art would have been motivated by the suggestions provided by **Shrader et al.** so as to have a reliable network.

5. **Claim 5** is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 2002/0007317 to **Callaghan et al.** in view of US Patent 6,182,141 to **Blum et al.** US Patent 6,374,359 to **Shrader et al.** and further in view of US Patent 5,805,803 to **Birrell et al.**

As per **claim 5**, both references substantially teach further comprising the step of receiving at the proxy a reply from the origin server, the reply containing an origin state token (page 6, paragraphs 88-90). **Callaghan et al.** teaches subsequent communications with the user. **Shrader et al.** also teaches subsequent communications with the browser. Neither of the references explicitly teaches a reply containing a cookie for use by the proxy in its subsequent communications with the origin server. **Birrell et al.** in an analogous art teaches subsequent requests between the proxy and the server (column 2, lines 52 et seq.). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method as combined above to use the state token instead by the proxy in its subsequent

Art Unit: 2136

communications with the server without additional work by the proxy as taught by **Birrell et al.**

This modification would have been obvious because one skilled in the art would have been motivated by the suggestions provided by **Birrell et al.** so as to prevent additional work by the proxy.

6. **Claim 8** is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 2002/0007317 to **Callaghan et al.** in view of US Patent 6,182,141 to **Blum et al.** in view of US Patent 6,374,359 to **Shrader et al.** and further in view of US Patent 6,212,640 to **Abdelnur et al.**

As per **claim 8**, both references substantially teach the claimed method of claim 1 and further teaches the use of protocol HTTP. Neither of the references explicitly teaches the protocol HTTPS. **Abdelnur et al.** in an analogous art teaches HTTPS as a secure protocol (column 4, lines 14-26). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method as combined above to add HTTPS during at least one of the receiving and transmitting steps to provide mean for automated encryption /decryption as taught by **Abdelnur et al.** This modification would have been obvious because one skilled in the art would have been motivated by the suggestions provided by **Abdelnur et al.** to provide more authentication in the communications between the client and the server.

Art Unit: 2136

7. **Claims 18-19** are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 2002/0007317 to **Callaghan et al.** in view of US Patent 6,182,141 to **Blum et al.** in view of US Patent 6,374,359 to **Shrader et al.** and further in view of US Patent 6,401,125 to **Makarios et al.**

7.1 **As per claim 18**, both references substantially teach the claimed transparent proxy server of claim 14. **Callaghan et al.** teaches the step of receiving a request from the client for a resource of the origin server (page 6, paragraph 86), sending the client an authorization by the policy module for the client to use a transparent proxy service (page 6, paragraph 86), accepting the authorization from the client with a renewed client request for the origin server resource (page 6, paragraph 87). **Callaghan et al.** further teaches forwarding the renewed client request with the credentials by stripping the cookie. Neither of the references explicitly teaches forwarding the renewed client request to the origin server without forwarding the authorization. However, **Makarios et al.** in an analogous art teaches forwarding the renewed client request to the origin server without forwarding the authorization but with an indication to the origin server that the transparent proxy server is the source of the forwarded request, and then transparently forwarding the requested resource from the origin server to the client (see column 3, lines 1-10; column 4, lines 30-67 and column 5, lines 44-64). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the steps as combined above to forward the renewed client request without authentication as taught by **Makarios et al.**. This modification would have been obvious because one skilled in the art would have been

Art Unit: 2136

motivated by the suggestions provided by **Makarios et al.** so as to maintain security and authentication in the proxy.

7.2 **As per claim 19, Makarios et al.** teaches the limitation of wherein the transparent proxy server sends the client the authorization by sending the client a proxy cookie for use in subsequent communications from the client (column 4, lines 55-67 and column 5, lines 25-50).

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carl Colin whose telephone number is 703-305-0355. The examiner can normally be reached on Monday through Thursday, 8:00-6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh can be reached on 703-305-9648. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

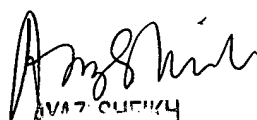
cc

Carl Colin

Patent Examiner

April 6, 2004

AYAZ SHEIKH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100


SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100